



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,603	12/05/2003	Philippe Le Biez	246178US0	7522
22850	7590	04/27/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MAI, NGOCLAN THI	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 04/27/2005.

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,603

Applicant(s)

LE BIEZ ET AL.

Examiner

Ngoclan T. Mai

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-13,15-17 and 19 is/are rejected.
- 7) ☒ Claim(s) 4,14 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 3, 6-12, 15, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mosser in view of Yamamoto et al (EP0489427).

Mosser disclosed a coating composition comprising aluminum powder, which includes aluminum alloy such as aluminum manganese. See col. 3, line 39 to col. 6, line 37. The difference between the claim and Mosser is that Mosser did not teach employing metal powder based on aluminum and containing manganese or calcium in the amount of from 5-20% by weight of the metal powder.

Yamamoto et al disclosed an aluminum manganese alloy coating having the composition of $Al-aMn-bX-cY-dZ$ where X can be Fe and Ni, Y can be Si, and Z can be Cr and Mo, a is 1-50 wt.%, b is 0-10 atomic percent, c is 0-3 atomic percent, and d is 0-5 atomic percent, see page 2, lines 41-55. The aluminum manganese alloy coating disclosed is suitable for use in automobiles and aircraft to provide improve resistance to corrosion, particularly pit corrosion and filiform corrosion in severe environment such as saline environment, page 2, lines 36-38.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ aluminum manganese alloy having the composition taught by Yamamoto et al. as the metal powder in the coating composition taught by Mosser since utilizing such powder would improve the resistance to corrosion and the

weldability and formability thereof as taught by Yamamoto et al. Determination of an optimum or preferred amount of Mn and other alloying elements in the alloy coating to obtain desired result would have been obvious to one skilled in the art. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation.” See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d (Fed.cir), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed Mn or Ca range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in the claim, the applicant must show that the chosen dimensions are critical. *In re Woodruff*, 919 F.2d, 1575, 1578, 16 USPQ2d, 1936 (Fed. Cir. 1990).

Regarding claim 3, Mosser taught that the coating compositions include a binder and any binder known in the metallurgical coating art may be used which includes organic binder, col. 9, lines 38-41 and col. 10, lines 18-20 .

Regarding claim 6-8, Mosser taught refractory compound such as BN, and lubricant such as molybdenum disulfide could be added to the aluminum powder to form coating to components such as seal having improved erosion, corrosion and chemical corrosion resistance. See col. 6, line 43-68 and col. 8, lines 8-47. The proportion of

the compounds disclosed depends on the particular application intended for the coating but generally and it should not exceed that proportion which would detract from the principal benefits obtained in accordance with the invention, preferably up to 25% based on total aluminum content, col. 7, lines 1-9.

Regarding claim 11, Mosser disclosed employed coating powder containing 800 grams aluminum powder and 360 grams binder, col. 13, lines 65-68. The weight percentage of aluminum powder disclosed is within the claimed amount.

3. Claims 5, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mosser in view of Yamamoto et al as applied to claims 1, 3, 12 and 16 above, and further in view of Rangaswamy et al. EP 0487273)

Mosser in view of Yamamoto et al did not specifically teach the type of organic binder.

Rangaswamy et al disclosed using organic binder such as polyester and polyimide in the composite abradable coating base on aluminum alloy powder.


Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the well known organic binder of the types taught by Rangaswamy et al as the organic binder in the composition containing aluminum powder and BN taught by Mosser in view of Yamamoto et al to form a coating to a seal having improved erosion, corrosion and chemical corrosion resistance.

4. Claims 4, 14, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ngoclan T. Mai
Primary Examiner
Art Unit 1742

n.m.